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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/659,388

09/11/2003

Kyung Chan Park

1740-000057/US

3783

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7590

10/29/2008

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EXAMINER

ALUNKAL, THOMAS D

ART UNIT

PAPER NUMBER

2627

MAIL DATE

DELIVERY MODE

10/29/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/659,388	<b>Applicant(s)</b> PARK, KYUNG CHAN	
	<b>Examiner</b> THOMAS D. ALUNKAL	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10 and 16-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### ***Response to Arguments***

Applicant's arguments filed 7/16/08 have been fully considered but they are not persuasive.

Regarding applicant's arguments beginning on page 5 of Remarks, the applicant argues that the combined teachings of Nakajima, Okumura et al. and Nakajima et al. do not disclose all of the claimed limitations of amended claim 1. Specifically, the applicant argues that "Nakajima discloses a Lead-in area having pits formed instead of a groove, i.e., Nakajima teaches away from a Lead-in area having both a HFM groove and straight pits formed along the groove." The Examiner respectfully disagrees. Figure 5A and Paragraphs 0112-0113 of Nakajima disclose a lead-in region where marks are written in either or both of a groove and a land. Therefore, Nakajima discloses the argued limitation of claim 1. It is noted that AAPA was relied upon in the previous Office Action for the disclosure of the type of groove (i.e., an HFM groove) currently presented in amended claim 1.

### **DETAILED ACTION**

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the mark and the space" in line 1. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 10, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al. (hereafter Nakajima)(US PgPub 2002/0001274) and Applicant's Admitted Prior Art (AAPA) and further in view of Nakajima et al. (US PgPub 2001/0036134).

Regarding claim 1, Nakajima discloses a high density read-only optical disc including a lead-in area, a data area, and a lead-out area, comprising (Figure 6, read-only optical disc): the lead-in area including a specific area having a groove and a fixed pattern of straight pits formed along the groove (Figure 5A and Paragraphs 0112-0113). Nakajima does not specifically disclose where the groove is a bi-phased High Frequency Modulated groove. However, AAPA discloses forming pre-pits associated with a bi-phased HFM (High Frequency Modulated) groove (Figure 2).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the modulation method of AAPA to the optical recording

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medium of Nakajima, motivation being to efficiently record control data to the lead-in area of the disc.

Furthermore, Nakajima also does not specifically disclose a tracking servo operation that can be successively performed over the whole data area of the disc. In the same field of endeavor, Nakajima et al. discloses an optical disc with a mark string provided in the lead-in area of the disc, in which a tracking servo signal is constant over the entire disc (Figure 13A and Paragraph 0147).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the tracking servo means of Nakajima et al. to the recording/reproducing device of Nakajima, motivation being to provide a single tracking servo operation over the entire disc without the need for separate tracking servo operations in different regions of the disc. A single tracking servo operation over the entire disc results in a reduced tracking time.

Regarding claim 2, Nakajima discloses wherein the specific area contains principal information of the high-density read-only optical disc (Paragraph 0006).

Regarding claim 3, Nakajima discloses wherein the specific area is an area that would correspond in a high-density rewritable optical disc to a PIC (Permanent Information & Control data) area, for permanently storing principal disc information (Paragraph 0006).

Regarding claim 4, Nakajima discloses wherein the optical disc is a read-only optical disc (Paragraph 0085). Nakajima does not disclose wherein the high-density read-only optical disc is a BD-ROM and the high density rewritable optical disc is a BD-

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RE. However, applicant's admitted prior art discloses a BD-ROM (Paragraph 0011) and a BD-RE (Paragraph 0005).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the data format of Nakajima to a BD-ROM disc, motivation being to increase the storage capacity of the read-only optical disc.

Regarding claim 5, Nakajima discloses wherein the mark and the space are repeatedly recorded in a predetermined recording period with different unique pit lengths according to a data value representing the recording period (Figures 5A-5D).

Regarding claim 6, Nakajima discloses wherein the sum of pit lengths of each pair of the mark and the space is constant, irrespective of a representative data value of the recording period (Figures 3a and 3b, straight pit strings with equal periods).

Regarding claim 7, this claim recites limitations substantially similar to those in claim 1 and is rejected for the reasons provided above.

Regarding claim 10, Nakajima discloses wherein the servo operation is a DPD (Differential Phase Detection) method (Figure 2, Elements 6, 7, 9, 10, and 11 and Paragraph 0043).

Apparatus claim 16 is drawn to the apparatus corresponding to the method of using the same as claimed in claim 7. Therefore apparatus claim 16 corresponds to method claim 7, and is rejected for the same reasons of obviousness as used above.

Regarding claim 17, Nakajima discloses wherein the reproducing device includes an optical pickup unit configured to read the data recorded in a lead-in area and read the data recorded in a user information area and a servo unit configured to drive the

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optical pickup unit (The optical pickup and servo unit are provided in the reproduction apparatus of Paragraph 0046.).

Regarding claim 18, Nakajima discloses wherein the servo unit is configured to perform a servo operation by a Differential Phase Detection (DPD) method (Figure 2, Elements 6, 7, 9, 10, and 11 and Paragraph 0043).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Karakawa et al. (US PgPub 2002/0054555) discloses an information storage apparatus and information reproducing method. Yamada (US

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5,737,284) discloses an optical disc drive having accessing from a current position within a lead-in area. Schell et al. (US 6,243,336) disclose an optical disc system having a servo motor and servo error detection assembly. Horie et al. (US 5,862,123) disclose an optical phase-change disc. Horimai et al. (US 6,128,272) disclose a high-density recording medium. Gotoh et al. (US 6,125,181) disclose a recording method wherein a piracy prevention barcode is encrypted in the disk's management area.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS D. ALUNKAL whose telephone number is (571)270-1127. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571)272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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/Thomas D Alunkal/  
Examiner, Art Unit 2627

/Wayne Young/  
Supervisory Patent Examiner, Art Unit 2627